



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,283	09/18/2003	Franky So	2003P11516US	9067
7590	12/28/2005		EXAMINER	
Siemens Corporation Intellectual Property Department 170 Wood Avenue South Iselin, NJ 08830			THOMPSON, CAMIE S	
			ART UNIT	PAPER NUMBER
			1774	
DATE MAILED: 12/28/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/666,283

Applicant(s)

SO ET AL.

Examiner

Camie S. Thompson

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on Election filed 10/10/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 11-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 26-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's election of Group I, claims 1-10 and 26-30, drawn to an emissive polymer layer and an organic light emitting diode with traverse is acknowledged. Applicant argues that all claims can be searched without serious burden to the Examiner. Although groups I and II are related and feature an emissive polymer layer, the method of producing at least one polymer chain is a different invention from that of the organic light emitting diode comprising the emissive polymer layer. The inventive portion of the inventions is different in each instance. This creates a schism in thought and results in prosecution going in two different directions within one application. This becomes burdensome rapidly. The restriction is maintained.

The requirement for restriction is still deemed proper and is therefore made **FINAL**.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-6, 10 and 26-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al., U.S. Patent Number 6,815,505.

Wu discloses an organic block polymer useful in an electroluminescent polymer device.

Additionally, the Wu reference discloses that the organic polymer comprises a positive charge carrier polymer block, a host polymer block and a negative charge carrier block (see column 2, line 59-column 3, line 22). Wu describes the host polymer block as comprising a first and

Art Unit: 1774

second monomer group wherein the first and second monomer groups can be substituted or unsubstituted aromatic or heteroaromatic groups, more particularly polyarylene vinylenes, thiophenes and fluorenes, used alone or in combination. Column 4, lines 10-50 of the Wu reference disclose that the ratio of the first to second monomer should be at least 1:99. Also, the reference discloses in column 4, lines 48-50 that alternating copolymers function well as the emissive block. A third and fourth monomer (a positive charge carrier polymer block) are attached to the host polymer block (see reference claim 1). A fifth and sixth monomer (negative charge carrier polymer block) are also attached to the host polymer block (see reference claim 1). Example 1 of the reference describes a polymer chain that comprises a positive charge carrier block (end group – fluorene containing); a first and second monomer and a negative charge carrier block (end group – anthracenyl containing). Column 3, lines 22-50 of the Wu reference discloses tht the electroluminescent polymer is positioned between the anode and a cathode. The Wu reference discloses that the positive charge carrier polymer block is consistently conjugated along the backbone of a positive charge carrier polymer block for transporting positive charge carriers (hole transporting) to the emissive polymer block so that the positive charge carriers combine with negative charge carriers to generate light (see column 3, lines 4-21). Claim 29 is a product-by-process limitation. Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claims is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See MPEP 2113. The manner in which the emissive polymer layer is made does not make the emissive polymer layer of the Wu

Art Unit: 1774

reference different from that of the emissive polymer layer of the present invention. Both Wu and applicant have the same emissive polymer layer.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al., U.S. Patent Number 6,815,505.

Wu discloses an organic block polymer useful in an electroluminescent polymer device.


Additionally, the Wu reference discloses that the organic polymer comprises a positive charge carrier polymer block, a host polymer block and a negative charge carrier block (see column 2, line 59-column 3, line 22). Wu describes the host polymer block as comprising a first and second monomer group wherein the first and second monomer groups can be substituted or unsubstituted aromatic or heteroaromatic groups, more particularly polyarylene vinylenes, thiophenes and fluorenes, used alone or in combination. Column 4, lines 10-50 of the Wu reference disclose that the ratio of the first to second monomer should be at least 1:99. Also, the reference discloses in column 4, lines 48-50 that alternating copolymers function well as the emissive block. A third and fourth monomer (a positive charge carrier polymer block) are attached to the host polymer block (see reference claim 1). A fifth and sixth monomer (negative charge carrier polymer block) are also attached to the host polymer block (see reference claim 1).

Art Unit: 1774

Example 1 of the reference describes a polymer chain that comprises a positive charge carrier block (end group – fluorene containing); a first and second monomer and a negative charge carrier block (end group – anthracenyl containing). Although the Wu reference provides for ratios between the monomers, the reference does not specifically recite that the concentration of the two end groups is much less than the concentration of the first monomer or the second monomer. The amount of the end groups affects the facilitation of charge carriers. Discovery of optimum values of a result effective variable involves only routine skill in the art *in re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Therefore, it would have been obvious to one of ordinary skill in the art to have the concentration of the end groups less than the concentration of the first or second monomer in order to facilitate attaining a balance of holes and electrons.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L Dye, can be reached at (571) 272-3186. The fax phone number for the Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**RENA DYE**  
**SUPERVISORY PATENT EXAMINER**  
A.U. 1774 12/22/05